

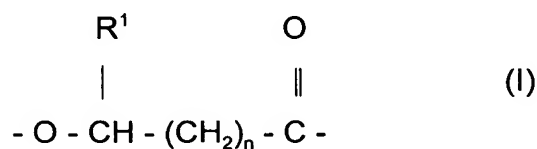
Claims

WHAT IS CLAIMED IS:

1. - 23. (canceled)

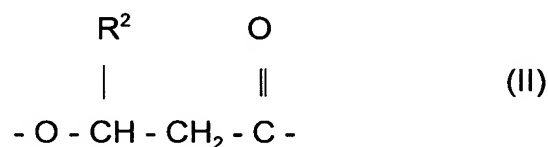
24. (new) A coextruded multi-layer film comprised of:

- a) at least one starch blend layer comprised of a modified thermoplastic starch blend that contains more than 1 % to 10 % water; and
- b) at least one polyester layer comprised of a biodegradable polyester; wherein the starch blend layer contains no polyhydroxyalkanoate copolymer consisting of at least a first and a second randomly repeating monomer units, wherein the first monomer unit has the structure (I):

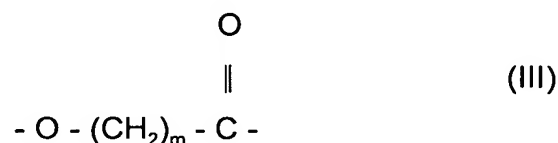


wherein R1 is H or a C1 or C2 alkyl group, with n = 1 or 2;

wherein the second monomer unit has the structure (II):



wherein R2 is a C3 to C19 alkyl or C3 to C19 alkenyl group, or the second monomer has the structure (III)



wherein m is from 2 to 9.

25. (new) The multi-layer film according to claim 24, wherein the at least one starch blend layer is surrounded by two of the at least one polyester layer.

26. (new) The multi-layer film according to claim 24, wherein the modified thermoplastic starch blend is comprised of:

- 30 % to 75 % starch,
- 2 % to 10 % water,
- 10 % to 50 % biodegradable polyester,
- 5 % to 20 % compatibilizer,
- up to 10 % plasticizer, and
- up to 3 % processing agent.

27. (new) The multi-layer film according to claim 26, wherein the compatibilizer comprises a polymer component having hydrophilic and hydrophobic groups arranged in blocks, respectively.

28. (new) The multi-layer film according to claim 27, wherein the compatibilizer comprises a hydrolyzed polyvinyl acetate that is saponified in blocks.

29. (new) The multi-layer film according to claim 26, wherein the plasticizer is glycerine.

30. (new) The multi-layer film according to claim 24, having a total thickness in a range of between 10 μm to 300 μm .

31. (new) The multi-layer film according to claim 30, wherein the at least one polyester layer has a thickness between 1 μm to 100 μm .

32. (new) The multi-layer film according to claim 30, wherein the at least one starch blend layer has a thickness between 5 μm to 250 μm .

33. (new) The multi-layer film according to claim 30, wherein the at least one starch blend layer is two times to 10 times thicker than the at least one polyester layer.

34. (new) The multi-layer film according to claim 24, wherein the biodegradable polyester is comprised of dihydroxy compounds and dicarboxylic acids as monomers.

35. (new) The multi-layer film according to claim 34, wherein the monomers of the biodegradable polyester are butanediol, adipic acid, and terephthalic acid; or butanediol, succinic acid, and adipic acid.

36. (new) The multi-layer film according to claim 24, wherein the at least one polyester layer comprises a polylactide; or a blend of a polylactide and another polyester; or a polyvinyl acetate.

37. (new) A method for manufacturing a multi-layer film according to claim 24, the method comprising the step of coextruding a) at least one layer of a modified thermoplastic starch blend and b) at least one layer comprised of a biodegradable polyester, wherein the modified thermoplastic starch blend and the biodegradable polyester have comparable melting and viscosity properties and wherein the modified thermoplastic starch blend contains more than 1 % to 10 % water.

38. (new) The method according to claim 37, wherein the modified thermoplastic starch blend and the biodegradable polyester materials have a viscosity of an MFI value between 4 g to 10 g per 10 minutes at 130 °C and 10 kg load.

39. (new) The method according to claim 37, wherein the modified thermoplastic starch blend and the biodegradable polyester materials have a viscosity of an MFI value between 5 g to 40 g per 10 minutes at 160 °C and 10 kg load.

40. (new) The method according to claim 37, wherein the temperature of the modified thermoplastic starch blend is kept between 90 °C to 140°C.

41. (new) The method according to claim 37, wherein the temperature of the biodegradable polyester is kept between 110 °C to 150 °C.

42. (new) The method according to claim 37, wherein the temperature of the biodegradable polyester comprising polylactides is kept between 150 °C and 190 °C.

43. (new) The method according to claim 37, wherein the step of coextruding is a blow extruding step.

44. (new) The method according to claim 43, wherein in the blow extruding step a blow ratio of 1:2 to 1:5 is used and a removal speed of 8 m to 30 m per minute is employed.

45. (new) The method according to claim 37, further comprising the step of stretching after the step of coextruding.

46. (new) The method according to claim 45, wherein the step of stretching is carried out at a temperature of the multi-layer film between 40 °C and 80 °C.

47. (new) The method according to claim 45, wherein in the step of stretching a stretching ratio of up to 1:5 is used.